

Applicant(s): Duncan C. FERGUSON

Serial No. 10/579,090

Filed: May 12, 2006

For: DNA SEQUENCE AND EXPRESSED RECOMBINANT GLYCOPROTEINS RELATED TO FELINE  
THYROTROPIN

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**Amendments to the Specification**

Please replace the paragraph beginning at page 8, line 29, with the following amended paragraph:

--Figure 1 diagrams the sequence information of the feline thyrotropin β-subunit, with an optional intron section. Both the nucleotide sequence and the expressed amino acid sequence are shown. Starting from the 5' end of the sequence, the first 6 nucleotide bases (not numbered) represent the Eco RI restriction site. Near the middle of the nucleotide sequence is a set of nucleotides (nucleotides 163 to 580) that represent Intron 1. SEQ ID NO: 14 encompasses the entire nucleotide sequence in Figure 1. SEQ ID NO: 7 is the nucleotide sequence running from nucleotide 1 to nucleotide 835, but lacking the nucleotides of Intron 1. SEQ ID NO: 8 is the nucleotide sequence running from nucleotide 1 to nucleotide 835 and including the Intron 1 nucleotides. SEQ ID NO: 1 is the amino acid sequence for the thyrotropin β-subunit without the signal sequence. It begins with a phenylalanine (phe) encoded by nucleotides 61 to 63, and ends with isoleucine (ile) encoded by nucleotides 830 to 832. SEQ ID NO: 2 is the amino acid sequence for the thyrotropin β-subunit prepeptide that includes the signal sequence. It begins with a methionine (met) encoded by nucleotides 1 to 3, and ends with isoleucine (ile) encoded by nucleotides 830 to 832.--

Please replace the paragraph beginning at page 9, line 12, with the following amended paragraph:

--Figure 2 diagrams the sequence information of the feline thyrotropin α-subunit. Both the nucleotide sequence and the expressed amino acid sequence are shown. Starting from the 5' end of the sequence, the first 6 nucleotide bases (not numbered) represent the Eco RI restriction site, while the next 6 nucleotide bases (also not numbered) represent a TOPO Blunt vector. SEQ

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ID NO: 15 encompasses the entire nucleotide sequence in Figure 2. SEQ ID NO: 9 is the nucleotide sequence running from nucleotide 100 to 459, encoding the feline thyrotropin  $\alpha$ -subunit prepeptide, and ending immediately before the FLAG tag site and Factor Xa cleavage site. SEQ ID NO: 10 is the nucleotide sequence running from nucleotide 1 to 459, encoding the prepeptide described above as well as including a leader sequence that provides enhanced levels of construct expression. SEQ ID NO: 3 is the amino acid sequence for the thyrotropin  $\beta$ -subunit without the signal sequence. It begins with a phenylalanine (phe) encoded by nucleotides 172 to 174, and ends with isoleucine (ile) encoded by nucleotides 457 to 459. SEQ ID NO: 4 is the amino acid sequence for the thyrotropin  $\beta$ -subunit prepeptide with the signal sequence. It begins with a methionine (met) encoded by nucleotides 100 to 102, and ends with isoleucine (ile) encoded by nucleotides 457 to 459. SEQ ID NO: 16 encompasses the entire encoded peptide sequence as shown in Figure 2.--

Please replace the paragraph beginning at page 9, line 29, with the following amended paragraph:

--Figure 3 diagrams the sequence information of the yoked feline thyrotropin construct using a CTP linker consisting of the C-terminal peptide (CTP) of human chorionic gonadotropin to connect feline thyrotropin  $\beta$ -subunit with a feline thyrotropin  $\alpha$ -subunit into a single chain (also known as yoked or tethered polypeptide in the literature). Both the nucleotide sequence and the expressed amino acid sequence are shown. Starting from the 5' end of the sequence, the first 6 nucleotide bases (not numbered) represent the Eco RI restriction site. Near the middle of the nucleotide sequence encoding the  $\beta$ -subunit is a set of nucleotides (nucleotides 163 to 580) that represent Intron 1. SEQ ID NO:17 encompasses the entire nucleotide sequence in Figure 3. SEQ ID NO:11 is the nucleotide sequence running from nucleotide 1 to nucleotide 1211, but lacking the nucleotides of Intron 1. SEQ ID NO: 12 is the nucleotide sequence running from nucleotide 1 to nucleotide 1211 and including the Intron 1 nucleotides. SEQ ID NO: 13 is the nucleotide

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sequence running from nucleotide 808 to nucleotide 937, encoding the CTP spacer peptide and its two adjacent primer sequences. SEQ ID NO: 5 is the amino acid sequence for the thyrotropin yoked polypeptide without the signal sequence. It begins with a phenylalanine (phe) encoded by nucleotides 61 to 63, and ends with isoleucine (ile) encoded by nucleotides 1209 to 1211. SEQ ID NO: 6 is the amino acid sequence for the thyrotropin yoked prepeptide with the signal sequence. It begins with a methionine (met) encoded by nucleotides 1 to 3, and ends with isoleucine (ile) encoded by nucleotides 1209 to 1211. SEQ ID NO:18 encompasses the entire encoded peptide as shown in Figure 3.--